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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,598	09/22/2003	Fumio Kubo	1131-0488P	6369

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EXAMINER

CORDRAY, DENNIS R

ART UNIT	PAPER NUMBER
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1791

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/665,598

Applicant(s)

KUBO ET AL.

Examiner

Dennis Cordray

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments, filed 10/30/2007, with respect to the rejection(s) of claim(s) 1-9 under 35 U.S.C. 103(a) have been fully considered and are persuasive. The cited prior art does not disclose the blowing means as claimed. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made as detailed below.

Claim Objections

Claim 1 is objected to because of the following informalities: in line 13, the word "passages" should be changed to "passage." The recitation of the plural form is believed to be a typographical error because the singular form was used in prior claims and there is no indication in the current claims that the word was intentionally amended. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3 and 5-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The new amendments to Claim 1 recite "a direction toward the tobacco band". However, the location of the tobacco band has only been generally recited in relation to

one end of the feed passage and is not described with sufficiently clarity to define the orientation of walls in another part of the apparatus.

The first page of Claim 1 recites "a flow of air flowing toward a suction surface of the tobacco band" in line 6, "the air flow" in line 8 and "the airflow" in line 10. On the second page of Claim 1, line 3 recites "a flow of air flowing toward said feed passage", lines 5-6 recite "allowing air to be introduced ...from the lower end thereof" (inherently creating a flow of air), and the last four lines of the claim recite an air blowing means that ejects air (inherently creating a flow of air). It is not clear which flow of air is being referenced by "the air flow" in line 8 and "the airflow" in line 10.

Claims 3 and 5-9 depend from and inherit the indefiniteness of Claim 1.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3 and 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brand et al (5645086) or Kazuichi et al (JP 2957173, machine translation of JP Publication No. 2000-060522-A referenced in rejection) in view of Okumoto et al (EP 0165080) and further in view of Labbe et al (4121596) or Rossi (4117647) and even further in view of Myhre et al (4786188) or Wilbur et al (6003681).

Brand et al discloses a shredded tobacco feeding apparatus for a cigarette manufacturing process (Figure, cols 3-6) comprising:

a feed passage extending to the tobacco band of the cigarette manufacturing machine (ref. nos. 24 and 52; col 4, lines 19-23; col 5, lines 29-34),

supply means causing the shredded tobacco to fall to an inlet of the feed passage (ref. no. 11; col 3, lines 37-47),

pneumatic transport means for producing a flow of air in the feed passage toward the suction surface of the tobacco band (ref. no. 14; col 3, lines 47-57),

a separation chute having an upper end opening in the vicinity of the feed passage inlet (area between plenum 13 and rotary wheel gate 17; col 3, lines 56-59),

a separation passage opening into the feed passage downstream of the separation chute and having a lower end opening downward and having front and rear walls apart from each other in a horizontal direction of the feed passage (ref. no 18; col 3, line 59 to col 4, line 18),

delivery means for collecting shredded tobacco in the separation chute and delivering it to an intermediate portion of the separation passage, the delivery means sealing a junction between the separation chute and separation passage (ref. no. 17; col 3, lines 57-63),

an introducing means for causing a flow of air flowing toward said feed passage to be produced in said separation passage at a higher level than the intermediate portion thereof (ref. nos. 19 and 21; col 3, line 66 to col 4, line 11). The flow of air toward said feed passage would allow outside air to be introduced to the separation passage from the lower end opening.

Kazuichi et al discloses a cut tobacco feeder for a cigarette producing apparatus (Figs 1-2) comprising:

a feed passage extending to the tobacco band of the cigarette manufacturing machine (ref. no. 5; p 2, par 2; p 4, par 12),

supply means causing the shredded tobacco to fall to an inlet of the feed passage (ref. nos. 4, 6 and 8; p 2, par 2; p 4, par 12),

pneumatic transport means for producing a flow of air in the feed passage toward the suction surface of the tobacco band (ref. nos. 14, 16 and 18; p 4, par 13),

a separation chute having an upper end opening in the vicinity of the feed passage inlet (ref. nos. 40 and/or 42; p 2, par 2; p 5, par 15),

a separation passage opening into the feed passage downstream of the separation chute and having a lower end opening downward and having front and rear walls apart from each other in a horizontal direction of the feed passage (ref. nos. 44 and bounded by front and rear walls 56 and 58; p 2, par 2; p 5, pars 17 and 18),

delivery means for collecting shredded tobacco in the separation chute and delivering it to an intermediate portion of the separation passage, the delivery means sealing a junction between the separation chute and separation passage (ref. nos. 50 and 52; p 2, par 2; p 5, par 16),

an introducing means for causing a flow of air flowing toward said feed passage to be produced in said separation passage at a higher level than the intermediate portion thereof (p 4, par 13), and

a movable front wall in the separation passage (ref. no. 56; p 5, par 18).

Brand et al and Kazuichi et al do not disclose a detection means, a blowing means for ejecting air along a reflecting or light emitting surface, or a removing means for accumulations of shredded tobacco in the separation passage.

Okumoto et al disclose a shredded tobacco feeder for a cigarette producing apparatus comprising a feed path through which shredded tobacco passes to the cigarette conveyor of the cigarette making machine. Okumoto et al teaches that tobacco pieces can accumulate in the feed path and cause clogging and subsequent shut down or damage of the apparatus. A detection device monitors the path and produces an alarm signal stopping the machine when a plug is detected (Abs; p 2, lines 1-35). The detection device can be a photoelectric reflective type detector that emits light from one wall and senses the light reflected back from the opposite wall. Alternatively, the photoelectric device can emit light from one wall and sense the light with an optical sensor on the opposite wall (p 6, line 27 to p 7, line 26; Figs 6a-d). The two types of detection device are analogous to the claimed devices.

Okumoto et al does not disclose the use of a mirror on a wall opposite the light emitting portion of the detection device, an air blowing means for ejecting air along one of the light emitting/receiving or mirror surfaces or a removing means for accumulations of shredded tobacco.

Labbe et al discloses a cigarette making machine comprising a steeply sloping feed channel through which shredded tobacco passes in a downward direction before being fed to a tobacco band (Fig. 1, ref. no. 40; col 3, line 49 to col 4, line 5). The

height of the tobacco in the feed channel is controlled by photoelectric sensors, which vary the rate at which tobacco is fed to the channel (col 4, lines 6-10). In addition, one wall of the channel can be vibrated to facilitate the feed of tobacco through the channel (col 3, lines 63-65).

Labbe et al does not disclose the use of a mirror on a wall opposite the light emitting portion of the detection device or an air blowing means for ejecting air along one of the light emitting/receiving or mirror surfaces.

Rossi discloses a packaging machine to form, fill and seal flexible pouches (Abs; col 1, lines 9-14). The pouches are filled by material that drops through a feed pipe and into the pouch (col 8, lines 61-68). When the material tends to form clogs, a vibrating device vibrates an element of the fill or storage mechanism to loosen the clog (a removing means for accumulations of clogging material) (col 9, lines 13-18).

Rossi et al does not disclose the claimed detection device or an air blowing means for ejecting air along one of the light emitting/receiving or mirror surfaces.

Wilbur et al discloses an automated bulk processing apparatus wherein light weight articles, such as tobacco leaf products or wood chips, are conveyed to a discharge point and are projected in air along a trajectory through an optical inspection and sorting system (Abs). The optical inspection and sorting system comprises upper and lower windows through which the articles are illuminated and viewed by camera (Fig 5, items 100 and 102 respectively, col 6, lines 5-9). An air curtain unit (114) and

nozzle (116) direct an air flow (Fig 2, item 118) across the lower window (102) and toward the direction of the trajectory and functions to support the relatively light weight articles (col 6, lines 42-48). The air flow also acts to clean the lower window of any debris or dust (col 7, lines 8-9).

Myhre et al discloses a combustion instrument having a pyrometer for reading temperature of blades of a gas turbine filled with a combustion suspension to monitor the operating temperature of the turbine. The pyrometer comprises a lens through which radiation passes from the turbine blades. To keep the lens free of deposits, which is essential to correct operation of the pyrometer, pressurized air is passed across the lense to purge it of contaminants Abs; (col 4, lines 10-64). The positive flow of air scrubs the surface of the lens, re-entrain particles that have been deposited on the lens and carry them away from the lens (col 6, lines 1-14).

The art of Brand et al, Kazuichi et al, Okumoto et al, Labbe et al, Rossi and the instant invention are analogous as pertaining to the transport of shredded tobacco or other material or to removing clogs in gravity feed channels. Wilbur et al, Myhre et al and the instant invention are analogous as solving the problem of removing undesired debris from accumulating on surfaces. In the Background Art portion of the instant Specification, the problem of stagnation of tobacco shreds, potentially leading to clogging, in the widthwise opposite regions of the passage is admitted to be known in prior art (p 2, lines 6-32). The cited prior art demonstrates that it is well known in the art to use the "line of detection" of optical sensors to detect tobacco accumulation for

purposes of controlling flow and for detection of potential stagnation or clogging. The prior art also shows that it is well known to remove debris from surfaces and keep them clean by using an air flow directed along the surface. It would have been obvious to one of ordinary skill in the art to use photoelectric detectors to detect if tobacco shreds were accumulating in the separation passage in the tobacco feeding apparatus of Brand et al or Kazuichi et al in view of Okumoto et al and further in view of Labbe et al and Rossi to prevent catastrophic shutdown of the process or damage to the apparatus. The use of a mirror in the opposite wall from a photoelectric reflective type detector would have been obvious to provide the best reflection possible. It would also have been obvious to one of ordinary skill in the art to locate and direct the "line of detection" of the sensors as claimed so as to impinge on any developing stagnation or clogging of the separation chute. Directing a flow of air across the light emitting/receiving or mirror surfaces as taught by Wilbur et al or Myhre et al to keep the light emitting/receiving or mirror surfaces clean would further have been obvious to ensure accurate sensor operation and as a well known and functionally equivalent option. Directing the air flow upward would have been obvious to avoid disrupting the upward flow of air in the separation passage and to use the air flow in the passage to carry the removed deposits away from the surface. While the detectors in the process of Okumoto et al shut down the apparatus when a plug is detected, an alarm to notify the operator would have been an obvious step as well. It would also have been obvious to use vibration of at least one wall of the separation passage as a well known means to loosen potential clogs and aid in the transport of the tobacco pieces through the passage.

All claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Cordray whose telephone number is 571-272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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